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### **COMMENTS**

Comments received for CHA Draft Report (*July 6, 2009,* CHA Project No. 20085.1000.1510) for the Assessment of Dam Safety of Coal Combustion Surface Impoundments Georgia Power Company – Plant Bowen, Cartersville, GA. Comments include;

- EPA comments received on July 13, 2009;
- Georgia Department of Natural Resources, Environmental Protection Division received on August 12, 2009; and
- Georgia Power Company comments received on September 4, 2009.



## Final Report Assessment of Dam Safety of Coal Combustion Surface Impoundments Georgia Power Company – Plant Bowen Cartersville, GA

Comments Received from the EPA (July 13, 2009) In Response to CHA Draft Report (July 6, 2009)

CHA Project No. 20085.1000.1510



### Everleth, Jennifer

From: Harris IV, Warren

**Sent:** Monday, July 13, 2009 1:10 PM

To: Everleth, Jennifer; Adnams, Katy; Hargraves, Malcolm

Subject: FW: EPA's comments on CHA's Draft Assessment Report for: Georgia Power Company -

Plant Bowen

----Original Message----

From: Killeen, Deborah A [mailto:deborah.a.killeen@lmco.com]

Sent: Monday, July 13, 2009 12:47 PM

To: Harris IV, Warren

Cc: Miller, Dennis A; Hoffman.Stephen@epamail.epa.gov

Subject: FW: EPA's comments on CHA's Draft Assessment Report for: Georgia Power Company -

Plant Bowen

Warren,

Here are EPA's comments on CHA's Draft Assessment Report for: Georgia Power Company - Plant Bowen:

1) Figure 7 is unreadable.

2) Hazard potential is listed as "Significant" on EPA checklist, but marked as "Low" on EPA inspection form.

Deborah A Killeen Quality Assurance Officer Lockheed Martin/REAC 732-321-4245 (office) 609-865-9308 (cell) 732-494-4021 (fax)

## Final Report Assessment of Dam Safety of Coal Combustion Surface Impoundments Georgia Power Company – Plant Bowen Cartersville, GA

Comments Received from the EPA (July 13, 2009) In Response to CHA Draft Report (July 6, 2009)

CHA Project No. 20085.1000.1510



### Everleth, Jennifer

From: Killeen, Deborah A [deborah.a.killeen@Imco.com]

Sent: Wednesday, August 12, 2009 4:43 PM

To: Harris IV, Warren

Cc: Hoffman.Stephen@epamail.epa.gov; Kohler.James@epamail.epa.gov; Miller, Dennis A Subject: RE: State Comments on the Georgia Power Company - Plant Bowen Draft Report

Warren,

Please find the State's comments on the draft final report for Georgia Power Plant, Bowen, GA.

Deborah A Killeen Quality Assurance Officer Lockheed Martin/REAC 732-321-4245 (office) 609-865-9308 (cell) 732-494-4021 (fax)

----Original Message----

From: Kohler.James@epamail.epa.gov [mailto:Kohler.James@epamail.epa.gov]

Sent: Wednesday, August 12, 2009 4:37 PM
To: Miller, Dennis A; Killeen, Deborah A

Cc: Hoffman.Stephen@epamail.epa.gov

Subject: State Comments on the Georgia Power Company - Plant Bowen Draft Report

Dennis and Deb:

Attached are the state's comments on the Georgia Power Company - Plant Bowen Draft Report (CHA).

We have reviewed the comments and believe they are limited to factual/editorial issues. They should be verified and incorporated accordingly.

This comment was not as straightforward:

"...under Section 1.4, it is stated that there have been identified dam safety issues at Plant Bowen. We disagree that the issues were related to dam safety. They were issues that indirectly involved the dike, but were not caused by improper operation or failure of the dike."

Please review to determine if the clarification requested is necessary. Should you disagree or choose not to address/incorporate into the report, please draft a response that explains why.

Also: remember not to finalize any reports until we inform you that all comments (from EPA/state/company) have been received.

If you have any questions or concerns with these directions please feel free to call me or Steve. Thanks!

Jim

\*

Jim Kohler, P.E.
Environmental Engineer
LT, U.S. Public Health Service
U.S. Environmental Protection Agency

Office of Resource Conservation and Recovery Phone: 703-347-8953 Fax: 703-308-8433 ***********************************	
Forwarded by James Kohler/DC/USEPA/US on 08/12/2009 04:16 PM	
	 I
"Carey Anderson" <carey.anderson@dnr.state.ga.us></carey.anderson@dnr.state.ga.us>	
"Tom Woosley" <tom.woosley@dnr.state.ga.us>, James Kohler/DC/USEI</tom.woosley@dnr.state.ga.us>	PA/US@EPA
	'  I
Craig Dufficy/DC/USEPA/US@EPA, Stephen Hoffman/DC/USEPA/US@EPA	' 
>   Date:	
08/12/2009 04:01 PM	
Re: Request for Review: Georgia Power Company - Plant Bowen	   

### Jim:

Tom Woosley and I read the report, mainly looking at the portions that mention EPD. One thing we noticed is that it is misleading which program in EPD has regulatory authority to have issued the consent orders in 2002 and 2008. The dike itself is not regulated by EPD (Safe Dams Program) because it is not high hazard; therefore, we have no enforcement authority with respect to the dike. However, discharges from the pond are regulated by EPD, and the facility has an NPDES permit which is briefly discussed in section 1.2. In general, we think it should be made a little clearer that the consent orders were issued for violation of the NPDES permit and were not related to the Safe Dams Program.

We propose the following revision (or something similar) to section 1.2, including switching the first two paragraphs that might make this a little clearer:

"Discharges from the Plant Bowen ash impoundment are under the jurisdiction of the Georgia Department of Natural Resources Environmental Protection Division (EPD). EPD issued Permit No.

GA0001449 to the Georgia Power Company authorizing discharge... (to end of paragraph).

The dike surrounding the ash impoundment is not under the jurisdiction of EPD. According to the National Inventory of Dams (NID), the Georgia State ID No. for the dike is 008-031-04136. According to the EPD Safe Dams Program, the dike has been classified as a "Category II" dam, meaning improper operation or dam failure would not be expected to result in probable loss of human life. Category II dams do not require a permit under Georgia dam safety regulations, thereby leaving the design, operation and maintenance standards up to the owner's discretion for best management practices. According to Safe Dams Program personnel, as a Category II dam, the dike is not held to any state recognized dam design standards. However, the flood plain below the dike is reinventoried by the Safe Dams Program at least once every 5 years to check for changed conditions to assure the dike is properly classified. If changed conditions warrant a reclassification to Category I, meaning improper operation or dam failure would be expected to result in probable loss of human life, the dike itself would require a State permit and design and operation standards would be imposed."

The only other comments we have are that under Section 1.4, it is stated that there have been identified dam safety issues at Plant Bowen. We disagree that the issues were related to dam safety. They were issues that indirectly involved the dike, but were not caused by improper operation or failure of the dike. And, under Section 3.2, last sentence, under our regulations, we use the term probable maximum precipitation (PMP) instead of PMF.

I hope these are the type of comments you were looking for. Let us know if you have any questions,

Carey

Carey Anderson, E.I.T.
Environmental Engineer III
GA DNR/EPD
Safe Dams Program
4244 International Pkwy, Suite 110
Atlanta, GA 30354
404/362-2678
>>> <Kohler.James@epamail.epa.gov> 08/04/09 3:49 PM >>>

### Dear All:

On May 26-27, 2009, USEPA conducted a site assessment of coal combustion waste management units at the Georgia Power Company - Plant Bowen. Carey Anderson was the state representative present during the assessment.

Please paste the link below in your browser to download a copy of the draft report prepared by EPA's engineering contractor. I am requesting that you review and comment on this draft report. I would appreciate it if you would send me your comments no later than

10 days from the receipt of this email (August 18, 2009). This draft report has also been sent to the facility. After EPA receives all comments, a final report will be prepared and released to the public.

If you have any questions about this effort, please call me (703-347-8953) or Steve Hoffman (703-308-8413). Please acknowledge receipt of this email. Be aware this is not a public document and should be handled accordingly. Thank you!

Jim

Attachment link:

https://www.yousendit.com/download/Y1Rya3ZOdENtUUdGa1E9PQ

Jim Kohler, P.E. Environmental Engineer LT, U.S. Public Health Service U.S. Environmental Protection Agency Office of Resource Conservation and Recovery

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## Final Report Assessment of Dam Safety of Coal Combustion Surface Impoundments Georgia Power Company – Plant Bowen Cartersville, GA

Comments Received from Georgia Power Company (September 4, 2009) In Response to CHA Draft Report (July 6, 2009)

CHA Project No. 20085.1000.1510



Charles H. (Chuck) Huling, P.E. Vice President Environmental Affairs 241 Ralph McGill Boulevard NE Atlanta, Georgia 30308-3374

Tel 404.506.7716 Fax 404.506.7066 chhuling@southernco.com



Certified Mail

September 3, 2009

Mr. Stephen Hoffman
Office of Resource Conservation and Recovery (5304P)
U.S. Environmental Protection Agency
2733 South Crystal Drive, Fifth Floor
Arlington, Virginia 22202

Re: Comments on "Assessment of Dam Safety Coal Combustion Surface Impoundments Draft Report" for Georgia Power Company Plant Bowen, Cartersville, Georgia

Dear Mr. Hoffman,

On August 25, 2009, the U.S. Environmental Protection Agency ("EPA") provided to Georgia Power ("GPC") a draft report regarding certain facilities for the management of coal combustion byproducts at GPC's Plant Bowen ("Draft Report"). The Draft Report was prepared by CHA under contract to Lockheed Martin and was dated July 6, 2009. Georgia Power appreciates the opportunity to provide comments on the draft report before it is finalized. This letter provides Georgia Power's comments on that draft report.

### Acknowledgement of Management Unit Condition and Potential Hazard Rating

We are pleased that the report concludes that the coal combustion byproduct management unit at Plant Bowen is in "Satisfactory" condition, which is the most favorable category. We also agree with the report's recommended potential hazard rating as "Low". This ranking matches the current ranking under the National Inventory of Dams.

### Report Recommendations

The Draft Report includes three recommendations. GPC is already conducting or agrees to initiate those recommendations as described in the paragraphs below.

GPC has initiated evaluation of storm events larger than a 10 year storm and for safely passing appropriate percentages of the probable maximum precipitation.

GPC already conducts site inspections and reviews instrumentation data after seismic events.

GPC will continue piezometer monitoring and inspections that have been implemented for the ash pond as these inspections allow for proactive responses to developing situations.

### Comments on Draft Report

GPC provided significant technical information to the inspection team to assist them in performing the inspection and providing factual information as a basis for their report. We appreciate the amount of time involved in reviewing and evaluating such information. We have reviewed the report in detail and offer these comments to assist in providing clear and factual information. In the following paragraphs, we provide a discussion of each comment along with GPC's recommendation in italics. Changes or additions to text in the current draft report are indicated in bold.

There are several discrete factual errata, typographical corrections or missing information. Attachment I provides a listing of recommended corrections.

GPC recommends the correction of the errata listed in Attachment I in the final report.

In Section 1.4, titled "Previously Identified Safety Issues", of the three safety issues identified, two were potentially related to dam integrity, which were the July 2002 sinkhole and the December 2008 ash release. Appropriate remedial actions were taken as described for both events resulting in no dike safety issues. The September 2008 event was an erosion issue unrelated to dike integrity or safety.

GPC recommends changing the first sentence in Section 1.4 to read: "There have been three previously identified ash pond issues at Plant Bowen, with two potentially related to the dike."

In Section 2.2.2, titled "North Dike", the last two sentences describe work being completed for a "drainage swale". The referenced "drainage swale" is, in fact, already clay lined. Additionally, the work being completed is to improve drainage and conveyance of storm water. All site improvements to reduce the facility's impact on karst topography was completed by June 1, 2004.

GPC recommends changing the last two sentences of Section 2.2.2 to read: "Georgia Power personnel indicated the drainage swale in this area is being regraded to address drainage and conveyance of storm water. This work is to be completed in 2009 or 2010."

On page 2 of the "Coal Combustion Waste (CCW) Impoundment Inspection" form, under the section titled "Describe Reasoning for Hazard Rating Chosen:", it would be informative to the reader to understand the actions taken by GPC to reduce the risk of unpermitted releases due to the karst topography.

GPC recommends adding the following sentence to the report response on page 2 of the "Coal Combustion Waste (CCW) Impoundment Inspection" form, under the section titled "Describe Reasoning for Hazard Rating Chosen:" - "GPC has taken actions to reduce the risk of sinkhole activity by removing the hydraulic head on the dry ash stacking area of the pond and lining all dewatering areas, drainage swales and the recycle pond."

On page 5 of "Coal Combustion Waste (CCW) Impoundment Inspection" form, there is a section titled "Has there ever been a failure at this site?" There has never been a dam failure at this facility. As described in section 1.4 of this report, the potential ash pond issues identified for this facility did not result in any failure of the dam.

GPC recommends on page 5 of "Coal Combustion Waste (CCW) Impoundment Inspection" form, the response be corrected to read: "Has there ever been a failure at this site" – "No"

In Section 3.2 Hydrology and Hydraulics, the last sentence, "In comparison, the same facility in a Category I condition would be required to safely pass or store 50% of the probable maximum flood (PMF)", makes a comparison that is inappropriate for this facility. The Plant Bowen ash pond dam is a Category II dam under Georgia Environmental Protection Division Safe Dams program, with no expectation of being reclassified. Also, 50% is an incorrect percentage. Therefore, Georgia Power believes the comparison to requirements for Category I dam is inappropriate. The comparison to criterion for a Category I dam classification is also made in Section 4.2.

GPC recommends removing references to criteria for a Category I classification in Section 3.2 and 4.2.

Throughout the report, coal combustion byproducts are referred to as coal combustion "waste". In the State of Georgia, "waste" holds a regulatory definition under OCGA 12-8-20, Georgia Comprehensive Solid Waste Management Act of 1990. Coal combustion byproducts in ash ponds do not meet this definition.

GPC recommends using the term "coal combustion byproducts" throughout the report.

Thank you again for this opportunity to comment. Please direct any future correspondence on this issue to me.

Sincerely,

Charles H. Huling

Enclosure

### ATTACHMENT 1

### ERRATA to "Assessment of Dam Safety Coal Combustion Surface Impoundments Draft Report" for Georgia Power Company Plant Bowen, Cartersville, Georgia

Page & Section	Recommended Correction
1 - Section	Gary McWhorter, P.E., Earth Science and Environmental Engineering – Southern Company
1.1	Hollister Hill, Attorney - Troutman Sanders
	Will McIntyre, Sr. Compliance Specialist - Georgia Power
2 – Section 1.2	"The Plant Bowen ash pond dam is under the jurisdiction of the Georgia Department of Natural Resources"
2 – Section 1.2	Second sentence -"According to the National Inventory of Dams"
2 – Section 1.2	"Category II facilities are exempt from all of the Georgia dam safety regulations"
2 – Section 1.2	The permit became effective on November 9, 2007 and will expire on June 30, 2010."
2 – Section 1.2	"3. Submit a dredging plan of Euharlee Creek if proposed as part of the recommended remedial actions;"
2 – Section 1,2	"5. Conduct a geological engineering assessment of the ash pond stability and recommend corrective actions to address future sinkhole development."
3 – Section 1.3	"8. Submit and interim progress <b>report</b> on the completion of the corrective action plants; and,"
4 – Section	"This transition to dry disposal was an engineered plan to reduce the impacts of the hydrostatic levels in the
1.3	impoundment from impacting the underlying karst topography, which is more thoroughly discussed in Section 1.5 below."
6 – Section 1.4.2	This heavy rainfall resulted in a portion of the ash stack to erode and flow over <b>natural ground</b> .
6 – Section 1.4.3	"The sinkholes were excavated to twelve to fifteen feet and a graded filter was placed to backfill the depressions."
7 – Section 1.5	"The report summarizes several site-specific subsurface exploration programs that have been"
11 – Section	'In the area where the recycle pond ends and the main dike curves to the north, the cover soils over the formerly
2.2.1	sluiced or placed ash is level with the crest of the dam as shown in Photos 15, 16, 18, and 20."
Photograph 8	"South portion of the embankment near the end of the reclaimed water portion of the impoundment (looking west).  Recycle Pond is lined. Note set up for remote monitoring of piezometers (not operational as of our visit)."
Photograph 18	"Embankment at the "Horseshoe" looking north. Note original embankment crest width was 15 feet. Soil cover
1 notograph 16	placed uniform to dam crest."
Photograph 19	Embankment at the "Horseshoe" looking north. Gray coloring at toe of embankment is gravel placed along the road.
Photograph 21	"Recycle Pond and south end of the embankment crest looking east. Note the Recycle Pond is lined with bentonite
	and HDPE liner."
Photograph 22	"Drainage Swale noted in Photos 15, 16, and 17 discharges into the <b>Recycle</b> Pond. Note the drainage swale is also HDPE lined.
	Behind the swale in this photo is one of two gypsum ponds."
Photograph 24	"Upstream side of North Dike looking east. Dry Stack ash piles in the right of the photo. Drainage swale in this area
71	is lined with clay, but additional work is planned for the 2009 construction season.
Photograph 28	Within the main impoundment looking south. To the left of photo are the ash dewatering cells (2) and to the right
	of the photo are the gypsum dewatering cells (2).

Photograph 30   North ash dewatering cell looking east.					
Photograph 32 North embankment of ash dewatering cells, looking east.  Photograph 33 Separator dike between two ash dewatering cells.  Photograph 34 South ash dewatering cell looking east.  Photograph 35 West embankment of south ash dewatering cell, looking south.  Photograph 36 "South embankment of south ash dewatering cell, looking south.  Photograph 37 Upstream slope of south embankment of ash dewatering cells, looking east. Note the lined drainage swale in right of photo discharges into the recycle pond."  Photograph 38 East slope of ash dewatering cells, looking south.  Photograph 39 Sluiceway into the north ash dewatering cell.  Photograph 40 East slope of ash dewatering cells looking south.  Photograph 41 Lined gypsum dewatering cells looking south.  Photograph 42 "Emergency overflow and outlet sluice (via buried outlet pipe) from the gypsum dewatering cell into the drainage swale running to the recycle pond."  "The outlet is an emergency ash pond overflow discharge point in the NPDES permit which discharges through a sampling flume into a discharge channel in natural ground (photo 1)."  11 - Section 2.4 "There are 60 piezometers installed along the main impoundment dikes, recycle pond, and dewatering cell dikes at Plant Bowen with the majority being monitored remotely."  12 - Section 4. At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."  16 - Table 4 Pine Residual Soil 124 30° 100 100 100 100 100 100 100 100 100 1	Photograph 29	The west embankment of th	e ash dewatering cell. Note	e short height and 3H:1V sl	ope.
Photograph 32 North embankment of ash dewatering cells, looking east.  Photograph 33 Separator dike between two ash dewatering cells.  Photograph 34 South ash dewatering cell looking east.  Photograph 35 West embankment of south ash dewatering cell, looking south.  Photograph 36 "South embankment of ash dewatering cells, looking East. Note the lined drainage swale in right of photo discharges into the recycle pond."  Upstream slope of south embankment of ash dewatering cells, looking east. Note the red clay liner which overlays a liner.  Photograph 38 East slope of ash dewatering cells, looking south.  Photograph 39 Shuiceway into the north ash dewatering cell.  Photograph 40 East slope of ash dewatering cells looking south.  Photograph 41 Lined gypsum dewatering cell.  Photograph 42 "Emergency overflow and outlet sluice (via buried outlet pipe) from the gypsum dewatering cell into the drainage swale running to the recycle pond."  11 - Section 2.3 "The outlet is an emergency ash pond overflow discharge point in the NPDES permit which discharges through as sampling flume into a discharge channel in natural ground (photo 1)."  12 - Section 2.4 "Plant Bowen with the majority being monitored remotely."  13 - Section 2.4 "A new remote reading system is being installed to allow reading of selected piezometers on a daily basis."  At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."  16 - Table 4 "An ew remote reading system is being installed to allow reading of selected piezometers on a daily basis."  16 - Table 5 "Table 5 with corrected values:  Description   Unit Weight (per)   Friction angle (φ)   Cahesion (psf)   Embankment   122   13   18   18   18   18   18   18   18	Photograph 30	North ash dewatering cell	looking east.		
Photograph 32 North embankment of ash dewatering cells, looking east.  Photograph 33 Separator dike between two ash dewatering cells.  Photograph 34 South ash dewatering cell looking east.  Photograph 35 West embankment of south ash dewatering cell, looking south.  Photograph 36 "South embankment of ash dewatering cells, looking East. Note the lined drainage swale in right of photo discharges into the recycle pond."  Upstream slope of south embankment of ash dewatering cells, looking east. Note the red clay liner which overlays a liner.  Photograph 38 East slope of ash dewatering cells, looking south.  Photograph 39 Shuiceway into the north ash dewatering cell.  Photograph 40 East slope of ash dewatering cells looking south.  Photograph 41 Lined gypsum dewatering cell.  Photograph 42 "Emergency overflow and outlet sluice (via buried outlet pipe) from the gypsum dewatering cell into the drainage swale running to the recycle pond."  11 - Section 2.3 "The outlet is an emergency ash pond overflow discharge point in the NPDES permit which discharges through as sampling flume into a discharge channel in natural ground (photo 1)."  12 - Section 2.4 "Plant Bowen with the majority being monitored remotely."  13 - Section 2.4 "A new remote reading system is being installed to allow reading of selected piezometers on a daily basis."  At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."  16 - Table 4 "An ew remote reading system is being installed to allow reading of selected piezometers on a daily basis."  16 - Table 5 "Table 5 with corrected values:  Description   Unit Weight (per)   Friction angle (φ)   Cahesion (psf)   Embankment   122   13   18   18   18   18   18   18   18	Photograph 31	North embankment of ash of	lewatering cells.		
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Photograph 37 Photograph 38 East slope of ash dewatering cells, looking south.  Photograph 39 Sluiceway into the north ash dewatering cell.  Photograph 40 Photograph 41 Photograph 42 Photograph 42 Photograph 42 "Emergency overflow and outlet sluice (via buried outlet pipe) from the gypsum dewatering cell into the drainage swale running to the recycle pond."  11 – Section 2.4 12 – Section 2.4 13 – Section 3.2. 16 – Table 4 13 – Table 4 16 – Table 4 16 – Table 5 17 – Table 5 16 – Table 5 17 – Table 5 18 – Table 5 18 – Table 5 19 – Table 5 – Table 5 19 – Table 5 – Table 6 – Table 7 – Table 7 – Table 7 – Table 6 – Table 8 – Table 7 – Table 6 – Table 8 – Table 7 – Table 7 – Table 6 – Table 8 – Table 8 – Table 8 – Table 8 – Table 9 – Table	Photograph 36			East. Note the lined drainag	e swale in right of photo
Photograph 38 East slope of ash dewatering cells, looking south.  Photograph 40 East slope of ash dewatering cells looking south.  Photograph 41 Lined gypsum dewatering cells looking south.  Photograph 42 "Emergency overflow and outlet sluice (via buried outlet pipe) from the gypsum dewatering cell into the drainage swale running to the recycle pond."  11 - Section 2.3 "The outlet is an emergency ash pond overflow discharge point in the NPDES permit which discharges through a sampling flume into a discharge channel in natural ground (photo 1)."  12 - Section 2.4 "There are 60 piezometers installed along the main impoundment dikes, recycle pond, and dewatering cell dikes at Plant Bowen with the majority being monitored remotely."  13 - Section 3.2. "A new remote reading system is being installed to allow reading of selected piezometers on a daily basis."  At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."  Table 4 with corrected values:    Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)	Photograph 37	Upstream slope of south em		ng cells, looking east. Note	the red clay liner which overlays
Photograph 40 East slope of ash dewatering cells looking south.  Photograph 41 Lined gypsum dewatering cell.  Photograph 42 "Emergency overflow and outlet sluice (via buried outlet pipe) from the gypsum dewatering cell into the drainage swale running to the recycle pond."  11 – Section 2.3 a sampling flume into a discharge channel in natural ground (photo 1)."  12 - Section 2.4 "There are 60 piezometers installed along the main impoundment dikes, recycle pond, and dewatering cell dikes at Plant Bowen with the majority being monitored remotely."  13 – Section 2.4 "A new remote reading system is being installed to allow reading of selected piezometers on a daily basis."  16 – Table 4 At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."  16 – Table 4 With corrected values:    Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)	Photograph 38		ng cells, looking south.		
Photograph 42	Photograph 39	Sluiceway into the north asl	n dewatering cell.		
Photograph 42 "Emergency overflow and outlet sluice (via buried outlet pipe) from the gypsum dewatering cell into the drainage swale running to the recycle pond."  "The outlet is an emergency ash pond overflow discharge point in the NPDES permit which discharges through a sampling flume into a discharge channel in natural ground (photo 1)."  12 - Section 2.4 Plant Bowen with the majority being monitored remotely."  12 - Section 3.2 Section 3.2 At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."  Table 4 with corrected values:    Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)     Embankment   122   31°   350     Firm Residual Soil   117   20°   100     Ash   85   15°   0     Table 5 with corrected values:    Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)     Embankment   122   25°   280     Embankment   122   25°   280     Embankment   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   124   24°   175     Weak Residual Soil   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   124   24°   175     Weak Residual Soil   117   20°   100     Embankment   126   126   126     Embankment   127   120°   100     Embankment   128   124	Photograph 40	East slope of ash dewatering	ng cells looking south.		
swale running to the recycle pond."  11 - Section 2.3  "The outlet is an emergency ash pond overflow discharge point in the NPDES permit which discharges through a sampling flume into a discharge channel in natural ground (photo 1)."  12 - Section 2.4  "There are 60 piezometers installed along the main impoundment dikes, recycle pond, and dewatering cell dikes at Plant Bowen with the majority being monitored remotely."  "A new remote reading system is being installed to allow reading of selected piezometers on a daily basis."  At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."  Table 4 with corrected values:    Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)	Photograph 41	Lined gypsum dewatering	cell.		
The outlet is an emergency ash pond overflow discharge point in the NPDES permit which discharges through a sampling flume into a discharge channel in natural ground (photo 1)."    12 - Section   2.4   There are 60 piezometers installed along the main impoundment dikes, recycle pond, and dewatering cell dikes at Plant Bowen with the majority being monitored remotely."    12 - Section   2.4   A new remote reading system is being installed to allow reading of selected piezometers on a daily basis."    At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."    Table 4 with corrected values:   Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)   Embankment   122   31°   350   124   30°   218   Weak Residual Soil   117   20°   100   Ash   85   15°   0   100   15°   15°   100   100   16°   15°   15°   100	Photograph 42			et pipe) from the gypsum d	ewatering cell into the drainage
2.3 a sampling flume into a discharge channel in natural ground (photo 1)."  12 - Section 2.4 "There are 60 piezometers installed along the main impoundment dikes, recycle pond, and dewatering cell dikes at Plant Bowen with the majority being monitored remotely."  12 - Section 2.4 "A new remote reading system is being installed to allow reading of selected piezometers on a daily basis."  At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."  Table 4 with corrected values:    Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)					
12 - Section   2.4   Plant Bowen with the majority being monitored remotely."   12 - Section   2.4	11 – Section				permit which discharges through
2.4   Plant Bowen with the majority being monitored remotely."   12 - Section   2.4     13 - Section   At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."   16 - Table 4   Table 4   Weight (pcf)   Friction angle (φ)   Cohesion (psf)	2.3	a sampling flume into a disc	harge channel in natural gro	ound (photo 1)."	
2.4   Plant Bowen with the majority being monitored remotely."   12 - Section   2.4     13 - Section   At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."   16 - Table 4   Table 4   Weight (pcf)   Friction angle (φ)   Cohesion (psf)	12 - Section	"There are 60 piezometers i	nstalled along the main imp	oundment dikes, recycle po	nd, and dewatering cell dikes at
2.4	2.4	Plant Bowen with the major	rity being monitored rem	otely."	
2.4         13 - Section 3.2.       At the end of the last paragraph add - "This is a permitted discharge under the NPDES permit during emergency conditions."         16 - Table 4       Table 4 with corrected values:       Table 4 with corrected values:         Description       Unit Weight (pcf)       Friction angle (φ)       Cohesion (psf)         Firm Residual Soil       124       30°       218         Weak Residual Soil       117       20°       100         Ash       85       15°       0         16- Table 5       Table 5 with corrected values:       Description       Unit Weight (pcf)       Friction angle (φ)       Cohesion (psf)         Embankment       122       25°       280         Firm Residual Soil       124       24°       175         Weak Residual Soil       117       20°       100	12 - Section	"A new remote reading syst	em is being installed to allo	w reading of selected piezo	meters on a daily basis."
3.2.   emergency conditions."   Table 4 with corrected values:   Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)	2.4		•		
3.2.   emergency conditions."   Table 4 with corrected values:   Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)	13 – Section	At the end of the last paragr	aph add - "This is a permit	ted discharge under the N	PDES permit during
Table 4   Table 4   Table 4 with corrected values:   Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)				3	
Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)		Table 4 with corrected value	28:		
Embankment   122   31 °   350     Firm Residual Soil   124   30 °   218     Weak Residual Soil   117   20 °   100     Ash   85   15 °   0     Table 5     Table 5 with corrected values:    Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)     Embankment   122   25 °   280     Firm Residual Soil   124   24 °   175     Weak Residual Soil   117   20 °   100	10 14010 .			Friction angle (w)	Cohesion (psf)
Weak Residual Soil   117   20 °   100     Ash   85   15 °   0     16- Table 5   Table 5 with corrected values:   Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)     Embankment   122   25 °   280     Firm Residual Soil   124   24 °   175     Weak Residual Soil   117   20 °   100					
Ash   85   15 °   0					
Table 5   Table 5   with corrected values:   Description   Unit Weight (pcf)   Friction angle (φ)   Cohesion (psf)					100
Description         Unit Weight (pcf)         Friction angle (φ)         Cohesion (psf)           Embankment         122         25 °         280           Firm Residual Soil         124         24 °         175           Weak Residual Soil         117         20 °         100		Ash	85	15°	0
Description         Unit Weight (pcf)         Friction angle (φ)         Cohesion (psf)           Embankment         122         25 °         280           Firm Residual Soil         124         24 °         175           Weak Residual Soil         117         20 °         100	16- Table 5	Table 5 with corrected value	es:		
Embankment         122         25°         280           Firm Residual Soil         124         24°         175           Weak Residual Soil         117         20°         100			·	Friction angle (φ)	Cohesion (psf)
Weak Residual Soil 117 20 ° 100					
				1 2 .	
Ash   85   0°   0		V-11-11-11-11-11-11-11-11-11-11-11-11-11			
		Ash	85	0 °	0

17 – Table 6	Table 6 with corrected	values and footnotes tha	t were in original tab	ole:	
	Load Case	USACOE Minimum Factor of SafetyGuidelines		Design se Documents	2003 Slope Study (min. of sections analyzed)
			North Dike	Main Dike	
	Steady State Seepage  - Downstream Slope  - Upstream Slope	1,5	1.9 <b>4.0</b>	1.7 2.7	1.4
	Steady State Seepage with Seismic Loading	1.0	NP	NP	* 0.99 (2% in 50 yr) 1.1 (10% in 50 yr)
	Rapid Drawdown (Upstream)	1.3	NP	NP	NP
	Under Wash/Uplift from Karst Feature	-	NP	NP	** 097
	Post Seismic Condition with Development of Karst Feature	-	NP	NP	*** 0.95
	shaking. 2) 2% PE means this level within a 50-year period. **- For this section and capproximately 600 psf. This failure) and applied to other	vel of quake has a 2% probal ase weak zone undrained coh s c=600 then taken as lower r section geometries for this a period of time shortly after	bility of exceedance (or a nesion varied until FOS a bound strength of weak parameter evaluation.	2% chance of higher ma approached or equal to a zone (lowest strength w	s in soil strength during seismic agnitude earthquake occurring)  1.0. This yielded a "c" value of eak zone could exhibit without strength has not recovered
19 – Section 3.4		was further modified in aghing of an ash slope to			nt in which heavy rain fall ver <b>adjacent natural</b>
20 – Section 3.4.1	"Georgia Power is work read daily."	king on installing a new	remote reading syste	m so selected piezo	meters will be able to be

Charles H. (Chuck) Huling, P.E.

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### DO NOT DISCLOSE

### **Confidential Business Information** Not Subject to Disclosure under the Freedom of Information Act

Certified Mail

September 3, 2009

Mr. Stephen Hoffman Office of Resource Conservation and Recovery (5304P) U.S. Environmental Protection Agency 2733 South Crystal Drive, Fifth Floor Arlington, Virginia 22202

Re: **Draft Dam Safety Inspection Report for Plant Bowen** 

Dear Mr. Hoffman:

On August 25, 2009, the U.S. Environmental Protection Agency ("EPA") provided to Georgia Power Company ("GPC") a draft report regarding certain facilities for the management of coal combustion byproducts at GPC's Plant Bowen in Carterville, Georgia ("Draft Report"). The Draft Report was prepared by Malcolm D. Hargraves, P. E. of CHA on behalf of Lockheed Martin. ("Hargraves") and was dated July 6, 2009. This letter provides the comments of GPC with respect to issues of confidentiality. GPC requests that EPA maintain this entire letter and the attached chart as confidential.

GPC provided certain information about the impoundment at Plant Bowen to representatives of Hargraves in the context of the inspection that took place on May 26 & 27, 2009. Most of that information was provided subject to a claim of confidentiality. At that time, EPA assured GPC that the information would be treated as confidential and would be returned to GPC after Hargraves' report to EPA was complete.

The Draft Report includes information that GPC regards as confidential. By letters from Mr. Nik M. Bundey of GPC to you, dated May 27, June 17 and June 30, 2009, GPC requested that certain information it was providing to Hargraves relating to impoundments for the management of coal combustion byproducts be treated as Confidential Business Information

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("CBI"). Each CBI document provided to Hargraves was so designated by stamping the document "Confidential Business Information". My letter to Mr. Richard Kinch of EPA, dated June 16, 2009, explained the bases for our concerns with respect to public disclosure of certain information relating to impoundments for the management of coal combustion byproducts. That letter concerned a different set of information, namely, the information provided directly to EPA in response to EPA's requests. However, the information provided to CHA covers the same general subject matter, and the same concerns apply.

GPC understands that EPA intends to provide an opportunity for GPC to identify confidential information in the Draft Report prior to any public distribution. In that regard, our preliminary review of the report has identified many of the documents provided to Hargraves as CBI are either referenced in the Draft Report or are in the Draft Report. I have attached a chart that cross references the location in the Draft Report of the CBI protected material to the bates number of the document provided to Hargraves. GPC requests that EPA maintain the entire document as confidential until it has had an opportunity to review the entire Draft Report more carefully.

EPA's method to convey the Draft Report was to post it to a file-sharing web site, namely, sendspace.com. EPA then provided a link to the page and invited GPC to download the Draft Report. There is no apparent password protection or other limitation on the downloading of the Draft Report from the site. GPC is concerned that EPA's actions may have exposed the Draft Report to an unintended public disclosure. Accordingly, GPC requests that EPA remove the Draft Report from the web page immediately. GPC objects to any posting or other distribution of the Draft Report in a manner that exposes it to public disclosure. Regardless of EPA's response to this request, GPC continues to assert its claims of confidentiality and has not waived any such claim.

Thank you for this opportunity to comment. Please direct any future correspondence on this issue to me.

Sincerely,

Charles H. Huling

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Inventory of Documents Provided to EPA as CBI and that are used in CHA's Dam Safety Inspection Report for Plant Bowen **Bowen Ash Pond Inspection** 

CHA Report	Referenced on page 8 of CHA Report and Figures 16-1A, 16- 2A, 16-3A, 16-4A, 16-5A, 16- 6A, 16-7A and 16-9	Referenced on page 8 of CHA Report and Figures 16-1B, 16- 2B, 16-3B, 16-4B, 16-5B, 16- 6B, 16-7B	Referenced on page 8 of CHA Report	Referenced on page 8 of CHA Report	Referenced on page 8 of CHA Report and Figure 16-8	CHA Figure 10	CHA Figure 2	CHA Figure 4	CHA Figures 15-2& 15-3	CHA Figure 6	CHA Figures 3, 11, 12, 13-1, 13-2, 13-3, 14-1, 14-2, 14-3, & 15-1
Status	CBI Produced 05/26/09	CBI Produced 05/26/09	<b>CBI Produced 05/26/09</b>	<b>CBI Produced 05/26/09</b>	CBI Produced 05/26/09	CBI Produced 05/26/09	CBI Produced 05/26/09	CBI Produced 05/26/09	<b>CBI Produced 05/26/09</b>	CBI Produced 05/26/09	CBI Produced 05/27/09
Document Description	Bowen Dam Safety Surveillance 1st Quarterly Report 2009	Bowen Dam Safety Surveillance 1st Quarterly Report 2008	Bowen Dam Safety Surveillance 2nd Quarterly Report 2008	Bowen Dam Safety Surveillance 3rd Quarterly Report 2008	Bowen Dam Safety Surveillance 4th Quarterly Report 2008	Draft Georgia Power Plant Bowen Ash Pond Remote Automatic Data Acquisition system H- 944-3	Plant Bowen aerial photo of plant	Georgia Power Etowah Steam Plant Stability Analysis Ash Pond Dikes West Dike Drawing H- 1163	SCS Plant Bowen Units 1-4 Ash Pond Dewatering Cells Grading & Drainage Plan Drawing E14680	SCS Plant Bowen Units 1-4 Ash Pond Dewatering Cells Grading & Drainage Plan Drawing E14681 Sheet 2	Plant Bowen Ash Pond Dike Slope Stability Analysis Report
Date	04/16/09	05/01/08	07/21/08	10/17/08	01/05/09	11/10/05	06/08/01	10/13/69	06/24/03	06/24/03	12/03
Doc. Control No.	BOW-API 0002	BOW-API 0003	BOW-API 0004	BOW-API 0005	BOW-API 0006	BOW-API 0007	BOW-API 0036	BOW-API 0038	BOW-API 0040	BOW-API 0042	BOW-API 0043

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Inventory of Documents Provided to EPA as CBI and that are used in CHA's Dam Safety Inspection Report for Plant Bowen Bowen Ash Pond Inspection

Doc. Control No.	Date	Document Description	Status	CHA Report
<b>BOW-API 0044</b>	10/80/90	Plant Bowen Aerial Photo of Plant (Electronic	CBI	CHA Figure 9
		Copy)	Produced 05/27/09	
BOW-API 0046	05/28/04	Bowen Dam Safety Surveillance 1st Quarterly	CBI	Referenced on page 8 of CHA
		Report 2004	Produced 06/17/09	Report
BOW-API 0047	07/11/04	Bowen Dam Safety Surveillance 2 <sup>nd</sup> Quarterly	CBI	Referenced on page 8 of CHA
		Report 2004	Produced 06/17/09	Report
BOW-API 0048	10/07/04	Bowen Dam Safety Surveillance 3 <sup>rd</sup> Quarterly	CBI	Referenced on page 8 of CHA
			Produced 06/17/09	Report
<b>BOW-API 0049</b>	01/13/05	Bowen Dam Safety Surveillance 4th Quarterly	CBI	Referenced on page 8 of CHA
		Report 2004	Produced 06/17/09	Report
BOW-API 0050	04/22/05	Bowen Dam Safety Surveillance 1st Quarterly	CBI	Referenced on page 8 of CHA
	***	Report 2005	Produced 06/17/09	Report
BOW-API 0051	07/20/05	Bowen Dam Safety Surveillance 2nd Quarterly	CBI	Referenced on page 8 of CHA
		Report 2005	<b>Produced 06/17/09</b>	Report
<b>BOW-API 0052</b>	10/28/05	Bowen Dam Safety Surveillance 3 <sup>rd</sup> Quarterly	CBI	Referenced on page 8 of CHA
		Report 2005	Produced 06/17/09	Report
<b>BOW-API 0053</b>	01/09/06	Bowen Dam Safety Surveillance 4th Quarterly	CBI	Referenced on page 8 of CHA
		Report 2005	Produced 06/17/09	Report
BOW-API 0054	04/01/06	Bowen Dam Safety Surveillance 1st Quarterly	CBI	Referenced on page 8 of CHA
		Report 2006	Produced 06/17/09	Report
BOW-API 0055	08/18/06	Bowen Dam Safety Surveillance 2nd Quarterly	CBI	Referenced on page 8 of CHA
		Report 2006	Produced 06/17/09	Report
BOW-API 0056	11/28/06	Bowen Dam Safety Surveillance 3 <sup>rd</sup> Quarterly	CBI	Referenced on page 8 of CHA
		Report 2006	Produced 06/17/09	Report
BOW-API 0057	01/xx/07	Bowen Dam Safety Surveillance 4 <sup>th</sup> Quarterly	CBI	Referenced on page 8 of CHA
		Report 2006	Produced 06/17/09	Report
<b>BOW-API 0058</b>	04/12/07	Bowen Dam Safety Surveillance 1st Quarterly	CBI	Referenced on page 8 of CHA
		Report 2007	Produced 06/17/09	Report
BOW-API 0059	06/25/07	Bowen Dam Safety Surveillance 2 <sup>nd</sup> Quarterly	CBI	Referenced on page 8 of CHA
		Report 2007	Produced 06/17/09	Report

# Confidential Business Information Not Subject to Disclosure under the Freedom of Information Act

Inventory of Documents Provided to EPA as CBI and that are used in CHA's Dam Safety Inspection Report for Plant Bowen Bowen Ash Pond Inspection

Doc. Control No.   Date	Date	Document Description	Status	CHA Report
BOW-API 0060	09/18/07	Bowen Dam Safety Surveillance 3rd Quarterly	CBI	Referenced on page 8 of CHA
		Report 2007	Produced 06/17/09	Report
BOW-API 0061	12/07/07	Bowen Dam Safety Surveillance 4th Quarterly	CBI	Referenced on page 8 of CHA
		Report 2007	Produced 06/17/09	Report
BOW-API 0062	06/25/09	Plant Bowen Ash Dewatering Cell Stability	CBI	Referenced on page 8 of CHA
		Parameters	Produced 06/30/09	Report
BOW-API 0064	10/02/07	Plant Bowen Units 1-4 Gypsum Dewatering Cells	CBI	Referenced on page 8 of CHA
		Typical Dike Section Drawing E23847	Produced 06/30/09	Report and Figure 7
BOW-API 0065	05/18/09	Plant Bowen South Dike Station at Sta. 85+20	CBI	CHA Figure 5
			Produced 06/30/09	,
BOW-API 0066	60/08/90	Plant Bowen Ash Pond Flood Evaluation	CBI	Referenced on page 8 of CHA
		Calculations	Produced 06/30/09	Report